

SUPPLEMENTARY MATERIAL

Supplemental Table 1. Relationship between quality of care on individual measures and disease damage, with adjustment for disease status, health services and sociodemographic characteristics.

Individual Quality Indicator	Lupus Outcomes Study Specifications		Increase in BILD by 2 or more points OR (95% CI)
	Measure denominator, summary (N=eligible)	Measure numerator, summary (N=passed)	
IF a patient has SLE, THEN education about sun avoidance should be documented at least once in the medical record (e.g. wearing protective clothing, applying sunscreens whenever outdoors, and avoiding sunbathing).	All patients in cohort. (N=737)	Patient reported receipt of counseling regarding sun avoidance from a provider any time since disease onset. (N=737)	0.65 (0.35, 1.19)
IF a patient with SLE is on immunosuppressive therapy, THEN an inactivated influenza vaccine should be administered annually, unless patient refusal or contraindications are noted.	Patient reported use of immunosuppressive therapy at the time of the interview. (N=454)	Patient reported receipt of recommendation for inactivated influenza vaccination in the past 15 months. (N=360)	0.62 (0.34-1.12)
IF a patient with SLE is on immunosuppressive therapy, THEN a pneumococcal vaccine should be administered, unless patient refusal or contraindications are noted.	Patient reported use of immunosuppressive drug at the time of the interview. (N=448)	Patient reported receipt of recommendation for pneumococcal vaccine, ever. (N=314)	0.86 (0.48, 1.54)
If a patient with SLE has established treatment with an NSAID, DMARD or glucocorticoid, THEN monitoring for drug toxicity should be performed at specific intervals.	Patient reported treatment with any NSAID, DMARD or glucocorticoid at the time of the interview. (N=620)	Composite of patient reported laboratory blood draw (any) in the appropriate window immediately preceding the interview for the specific agents taken and patient reported appropriate procedures (e.g. ophthalmologic exam) in the appropriate window preceding the interview. (N=436)	1.45 (0.87, 2.41)
IF a patient has SLE, THEN risk factors for cardiovascular disease, including smoking status, BP, BMI, diabetes, and serum lipids should be evaluated annually.	All patients. (N=737)	Patient reported receipt of assessment for smoking, weight, blood pressure, and cholesterol in the past year. (N=527)	0.69 (0.44, 1.08)

SLE=systemic lupus erythematosus; NSAID=nonsteroidal antiinflammatory drug; DMARD=disease-modifying antirheumatic drug; BMI=body mass
Models control for age, sex, race/ethnicity, education, health insurance source and type, specialists seen, baseline Brief Index of Lupus
Damage (BILD) and Systemic Lupus Activity Questionnaire (SLAQ) scores, disease duration, number of visits in baseline year.

Supplemental Table 2. Relationship between quality of care domains and disease damage, with adjustment for disease status, health services and sociodemographic characteristics.

Quality Measure Domain	Individual Measure Components*	Increase in BILD by 2 or more points OR (95% CI)
General Preventive Strategies	1. Sun Avoidance Counseling 2. Influenza Vaccination 3. Pneumococcal Vaccination	0.72 (0.46, 1.10)
Bone Health	1. Bone Mineral Density testing 2. Calcium and Vitamin D supplementation 3. Anti-resorptive or Anabolic Therapy	0.92 (0.32, 2.62)
Drug Toxicity	1. Drug toxicity counseling 2. Drug toxicity monitoring 3. Glucocorticoid management plan 4. Teratogen counseling	1.59 (0.97, 2.63)
Renal Disease	1. Hypertension management 2. Anti-proteinuric therapy	0.95 (0.39, 2.36)
Cardiovascular Disease	1. Cardiovascular risk factor assessment	0.69 (0.44, 1.08)

* Participants were considered to have 'passed' each group of measures if they had received all services for which they were eligible in that group. Individual measure components are detailed in Yazdany J, Trupin L, Tonner C, et al. Quality of care in systemic lupus erythematosus: application of quality measures to understand gaps in care. J Gen Intern Med. 2012 Oct;27(10):1326-33.

Models control for age, sex, race/ethnicity, education, health insurance source and type, specialists seen, baseline Brief Index of Lupus Damage (BILD) and Systemic Lupus Activity Questionnaire (SLAQ) scores, disease duration, number of visits in baseline year.